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# PostgreSQL 17 Administration training

3 days (21 hours)

## Presentation

**PostgreSQL 17** is a powerful, **free, open-source database management system**. The system features a number of functions enabling developers to create applications that support administrators in protecting the reliability of large quantities of data, while maintaining infrastructure stability.

PostgreSQL is the only relational database to comply with no less than 160 of the 179 features of the SQL:2016 kernel. PostgreSQL also boasts a large, open and caring community, which has been helping to improve the tool since 1996. What's more, PostgreSQL supports a large number of extensions, as well as several SQL and NoSQL data models.

PostgreSQL 17 Administration training will help you ensure that your data remains available, protected against loss and corruption, and easily accessible.

Our training course, specially designed for database administrators, will enable you to master the maintenance of your databases by teaching you how to create and supervise instances, as well as advanced connection management. Our PostgreSQL training will teach you the latest version of the tool, [PostgreSQL 15](#).

## Objectives

- Manage an instance from creation to supervision
- Optimize performance and manage connections
- Improve the accessibility of your data

## Target audience

Architect, Project manager, Database manager

## Prerequisites

- Knowledge of database administration
- Knowledge of SQL

## Hardware requirements

- A Linux system preferably with administrator access and Internet access (2 vCPUs minimum, but 4 recommended)
- SSH client or console access for file transfers
- PostgreSQL installed

## Further information

- If you'd like to take your skills to the next level, we offer [PostgreSQL Advanced training](#) for perfect management of your database system.
- If you're a developer, we recommend [PostgreSQL training](#).

## PostgreSQL 17 Administration & Production training program

### PostgreSQL fundamentals

- Introducing PostgreSQL
- Understanding PostgreSQL databases
- PostgreSQL data types
- Data recovery
- Data filtering
- Data sorting
- Deleting duplicates
- Using the HAVING clause
- Trunking a table
- Stored procedures

### PostgreSQL operators

- Comparison operators
- The BETWEEN operator
- The NOT operator
- The LIKE operator
- AND and OR operators
- The LIMIT operator
- The IN operator
- The UNION operator
- The INTERSECT operator
- The EXCEPT operator

### PostgreSQL formulas and functions

- The AVG formula
- The COUNT formula
- SUM formula
- The MAX function
- The MIN function
- The ROW function
- The RANK function
- The DENSE RANK function
- The First Value function
- The LAST function
- The LAG function
- The LEAD function

## Triggers

- Why use a trigger?
- Create a trigger
- Managing a trigger

## The bodies

- Creating an instance
- Administration of an instance
- Managing an instance

## Performance tuning

- Restricting connections
- Memory optimization
- Refining auto-vacuum with thresholds

## Advanced connection management

- Advanced connection management
- PgBouncer
- PgPool

## High availability

- Logical replication (londist, slony)
- Physical replication
- Disaster recovery
- Archiving transaction logs

## Further information

## Companies concerned

This training course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

## Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

## Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

## Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

## Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

## Sanction

A certificate will be issued to each trainee who completes the course.